Serial No.: 10/590,119

Applicant: ZHI et al.

: August 18, 2006 Filed

AMENDMENTS TO THE CLAIMS:

Claims 1-17, 19-25, 27-35, 62-70, 72-78 and 82-86 are pending. Please amend claims 1, 2, 5, 7, 22, 23, 28-30, 62, 83 and 84 as indicated below. This listing of claims replaces all prior versions, and listings of claims, in the application.

LISTING OF CLAIMS:

1. (Currently amended) A compound of Formula II:

$$R^{6a}$$
 R^{7a}
 R^{12}
 R^{13}
 R^{13}
 R^{10}
 R^{10}

wherein:

R¹ is selected from among SR^A, NO₂, CN, an optionally substituted C₁-C₄ haloalkyl, COR^A, CONR^AR^B, SOR^A, and SO₂R^A;

R² is selected from among F, Cl, Br, I, SR^A, NO₂, CN, an optionally substituted C₁-C₄ haloalkyl, CORA, CO2RA, CONRARB, SORA, SO2RA, and SO2NRARB, NHCORA, and NHCONR^AR^B;

R³ and R⁴ each independently is selected from among hydrogen, F, Cl, OR^A, an optionally substituted C₁-C₄ alkyl, and an optionally substituted C₁-C₄ haloalkyl; provided that if R¹ is NO₂ and R³ is F, then Z is not O:

R⁵ is selected from among hydrogen, F, Cl and an optionally substituted C₁-C₄ haloalkyl;

R^{6a} and R^{7a} each independently is selected from among hydrogen, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C₂-C₆ alkynyl, and an optionally substituted C₂-C₆ alkenyl;

R⁹ is selected from an optionally substituted C₁-C₈ alkyl, an optionally substituted C₂-C₈ alkenyl, an optionally substituted C₁-C₈ haloalkyl, an optionally substituted C₂-C₈ haloalkenyl, C₁-C₈ heteroalkyl, an optionally substituted C₂-C₈ heteroalkenyl, an optionally substituted C₂-C₈ alkynyl, an optionally substituted C₂-C₈ haloalkynyl, an optionally

Applicant: ZHI et al. Serial No.: 10/590,119

substituted C2-C8 heteroalkynyl, an optionally substituted heteroaryl, CH(RD)ORA, $CH(R^{D})NR^{A}R^{B}$, COR^{A} , $CO_{2}R^{A}$, and $(CH_{2})_{m}R^{C}$;

R¹⁰ is selected from among hydrogen, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C2-C6 alkynyl, and an optionally substituted C2-C6 alkenyl;

R¹² and R¹³ each independently is selected from among hydrogen, F, Cl, OR^A, NR^AR^B, SR^A, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C1-C6 heteroalkyl, an optionally substituted C2-C6 alkynyl, an optionally substituted C_2 - C_6 alkenyl, and $(CH_2)_m R^C$;

R^A and R^B-each independently is selected from among hydrogen, an optionally substituted C_1 - C_4 alkyl[[,]] and an optionally substituted C_1 - C_4 haloalkyl, and an optionally substituted C₁-C₄-heteroalkyl;

R^B is selected from among hydrogen, an optionally substituted C₁-C₄ alkyl, an optionally substituted C₁-C₄ haloalkyl, and an optionally substituted C₁-C₄ heteroalkyl;

R^C is selected from among an optionally substituted aryl and an optionally substituted heteroaryl that is optionally substituted with a substituent selected from among F, Cl, Br, I, CN, OR^A, NO₂, NR^AR^B, SR^A, SOR^A, SO₂R^A, an optionally substituted C₁-C₄ alkyl, an optionally substituted C₁-C₄ haloalkyl, and an optionally substituted C₁-C₄ heteroalkyl;

R^D is selected from among hydrogen, an optionally substituted C₁-C₄ alkyl, an optionally substituted C₁-C₄ haloalkyl, and an optionally substituted C₁-C₄ heteroalkyl;

Z is selected from among O, S, CR^AR^B, and NR^D;

n is 0, 1, or 2; and

m is 1 or 2;

or a pharmaceutically acceptable salt thereof.

2. (Currently amended) The compound of claim 1, wherein:

R¹ is selected from among NO₂, CN and CONR^AR^B;

R² is selected from among F, Cl, Br, I, OR^A, SR^A, NO₂, CN, an optionally substituted C₁-C₄ haloalkyl, COR^A, CO₂R^A, CONR^AR^B, SOR^A, SO₂R^A, and SO₂NR^AR^B, NHCOR^A, and NHCONR^AR^B:

R³ and R⁴ each independently is selected from among hydrogen, F, Cl, OR^A, an optionally substituted C₁-C₄ alkyl, and an optionally substituted C₁-C₄ haloalkyl;

R⁵ is selected from among hydrogen, F, Cl, an optionally substituted C₁-C₄ alkyl and an optionally substituted C_1 - C_4 haloalkyl;

Attorney's Docket No.: 33310.01112.US02 / 1112US Applicant: ZHI et al. Amendment and Response

Serial No.: 10/590,119

: August 18, 2006

provided that if R⁴ is NO₂ and R³ is F, then Z is not O;

R^{6a} and R^{7a} each independently is selected from among hydrogen, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C₁-C₆ heterohaloalkyl, an optionally substituted C_2 - C_6 heterohaloalkenyl, an optionally substituted C_2 - C_6 heterohaloalkynyl, an optionally substituted C₂-C₆ alkynyl, and an optionally substituted C₂-C₆ alkenyl;

 R^9 is selected from among an optionally substituted C_1 - C_8 alkyl, an optionally substituted C₂-C₈ alkenyl, an optionally substituted C₁-C₈ haloalkyl, an optionally substituted C_1 - C_6 heterohaloalkyl, an optionally substituted C_2 - C_8 haloalkenyl, C_4 - C_8 heteroalkyl, an optionally substituted C2-C8 heteroalkenyl, an optionally substituted C2-C8 alkynyl, an optionally substituted C₂-C₈ haloalkynyl, an optionally substituted C₂-C₈ heteroalkynyl, an optionally substituted C2-C6 heterohaloalkenyl, an optionally substituted C2-C6 heterohaloalkynyl, an optionally substituted heteroaryl, CH(R^D)OR^A, CH(R^D)NR^AR^B, COR^A, $CO_2\mathbb{R}^A$ and $(CH_2)_m\mathbb{R}^C$;

R¹⁰ each independently is selected from among hydrogen, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C₁-C₆ heterohaloalkyl, an optionally substituted C₂-C₆ heterohaloalkenyl, an optionally substituted C₂-C₆ heterohaloalkynyl, an optionally substituted C₂-C₆ alkynyl, and an optionally substituted C₂-C₆ alkenyl;

R¹² and R¹³ each independently is selected from among hydrogen, F, Cl, OR^A, NR^AR^B, SR^A, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C₁-C₆ heterohaloalkyl, an optionally substituted C₂-C₆ heterohaloalkenyl, an optionally substituted C₂-C₆ heterohaloalkynyl, an optionally substituted C₂-C₆ alkynyl, an optionally substituted C₂-C₆ alkenyl, and $(CH_2)_m R^C$;

R^A and R^B each independently is selected from among hydrogen, an optionally substituted C_1 - C_4 alkyl[[,]] and an optionally substituted C_1 - C_4 haloalkyl, and an optionally substituted C₁-C₄-heteroalkyl;

R^B is selected from among hydrogen, an optionally substituted C₁-C₄ alkyl, an optionally substituted C₁-C₄ haloalkyl, and an optionally substituted C₁-C₄ heteroalkyl;

R^C is selected from among an optionally substituted aryl and an optionally substituted heteroaryl that is optionally substituted with a substituent selected from among F, Cl, Br, I, CN, OR^A, NO₂, NR^AR^B, SR^A, SOR^A, SO₂R^A, an optionally substituted C₁-C₄ alkyl, an optionally substituted C_1 - C_4 haloalkyl, and an optionally substituted C_1 - C_4 heteroalkyl;

Applicant: ZHI et al. Amendment and Response Serial No.: 10/590,119

: August 18, 2006 Filed

R^D is selected from among hydrogen, an optionally substituted C₁-C₄ alkyl, an optionally substituted C₁-C₄ haloalkyl, and an optionally substituted C₁-C₄ heteroalkyl;

Z is selected from among O, S, CRARB, and NRD;

n is 0, 1, or 2; and

m is 1 or 2.

- 3. (Previously presented) The compound of claim 1, wherein R^1 is NO_2 or CN.
- 4. (Previously presented) The compound of claim 1, wherein R¹ is NO₂.
- 5. (Currently amended) The compound of claim 1, wherein: A compound of Formula

<u>II:</u>

$$R^{1}$$
 R^{10}
 R^{10}

wherein:

R¹ is CN;

R² is selected from among F, Cl, Br, I, SR^A, NO₂, CN, an optionally substituted C₁-C₄ haloalkyl, CORA, CO2RA, CONRARB, SORA, SO2RA, SO2NRARB, NHCORA, and NHCONR^AR^B;

R³ and R⁴ each independently is selected from among hydrogen, F, Cl, OR^A, an optionally substituted C₁-C₄ alkyl, and an optionally substituted C₁-C₄ haloalkyl;

R⁵ is selected from among hydrogen, F, Cl and an optionally substituted C₁-C₄ haloalkyl;

R^{6a} and R^{7a} each independently is selected from among hydrogen, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C₂-C₆ alkynyl, and an optionally substituted C₂-C₆ alkenyl;

 R^9 is selected from an optionally substituted C_1 - C_8 alkyl, an optionally substituted C_2 -C₈ alkenyl, an optionally substituted C₁-C₈ haloalkyl, an optionally substituted C₂-C₈ haloalkenyl, C₁-C₈ heteroalkyl, an optionally substituted C₂-C₈ heteroalkenyl, an optionally substituted C₂-C₈ alkynyl, an optionally substituted C₂-C₈ haloalkynyl, an optionally

Applicant : ZHI *et al.*Serial No. : 10/590,119
Filed : August 18, 2006

Attorney's Docket No.: 33310.01112.US02 / 1112US

Amendment and Response

substituted C₂-C₈ heteroalkynyl, an optionally substituted heteroaryl, CH(R^D)OR^A, CH(R^D)NR^AR^B, COR^A, CO₂R^A, and (CH₂)_mR^C;

 R^{10} is selected from among hydrogen, an optionally substituted C_1 - C_6 alkyl, an optionally substituted C_1 - C_6 haloalkyl, an optionally substituted C_1 - C_6 heteroalkyl, an optionally substituted C_2 - C_6 alkynyl, and an optionally substituted C_2 - C_6 alkenyl;

 R^{12} and R^{13} each independently is selected from among hydrogen, F, Cl, OR^A , NR^AR^B , SR^A , an optionally substituted C_1 - C_6 alkyl, an optionally substituted C_1 - C_6 haloalkyl, an optionally substituted C_2 - C_6 alkynyl, an optionally substituted C_2 - C_6 alkenyl, and $(CH_2)_mR^C$;

 R^A and R^B each independently is selected from among hydrogen, an optionally substituted C_1 - C_4 alkyl, an optionally substituted C_1 - C_4 haloalkyl, and an optionally substituted C_1 - C_4 heteroalkyl;

 R^{C} is selected from among an optionally substituted aryl and an optionally substituted heteroaryl that is optionally substituted with a substituent selected from among F, Cl, Br, I, CN, OR^{A} , NO_{2} , $NR^{A}R^{B}$, SR^{A} , SOR^{A} , $SO_{2}R^{A}$, an optionally substituted C_{1} - C_{4} alkyl, an optionally substituted C_{1} - C_{4} heteroalkyl;

 R^D is selected from among hydrogen, an optionally substituted C_1 - C_4 alkyl, an optionally substituted C_1 - C_4 haloalkyl, and an optionally substituted C_1 - C_4 heteroalkyl;

Z is CR^AR^B ;

_____ n is 0; and

m is 1 or 2;

or a pharmaceutically acceptable salt thereof.

- 6. (Previously presented) The compound of claim 1, wherein R^2 is an optionally substituted C_1 - C_4 haloalkyl.
- 7. (Currently amended) The compound of claim 1, wherein A compound of Formula II:

$$R^{1}$$
 R^{1}
 R^{1}
 R^{1}
 R^{1}
 R^{2}
 R^{1}
 R^{1}
 R^{2}
 R^{1}
 R^{2}
 R^{1}
 R^{2}
 R^{1}
 R^{2}
 R^{1}
 R^{2}
 R^{3}
 R^{4}
 R^{10}
 R^{5}
 R^{5}
 R^{5}

wherein:

Attorney's Docket No.: 33310.01112.US02 / 1112US Applicant: ZHI et al. Amendment and Response Serial No.: 10/590,119 : August 18, 2006 R¹ is selected from among SR^A, NO₂, CN, an optionally substituted C₁-C₄ haloalkyl, CORA, CONRARB, SORA, and SO₂RA; R² is trifluoromethyl; R³ and R⁴ each independently is selected from among hydrogen, F, Cl, OR^A, an optionally substituted C₁-C₄ alkyl, and an optionally substituted C₁-C₄ haloalkyl; R⁵ is selected from among hydrogen, F, Cl and an optionally substituted C₁-C₄ haloalkyl; R^{6a} and R^{7a} each independently is selected from among hydrogen, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C₂-C₆ alkynyl, and an optionally substituted C₂-C₆ alkenyl; R⁹ is selected from an optionally substituted C₁-C₈ alkyl, an optionally substituted C₂-C₈ alkenyl, an optionally substituted C₁-C₈ haloalkyl, an optionally substituted C₂-C₈ haloalkenyl, C₁-C₈ heteroalkyl, an optionally substituted C₂-C₈ heteroalkenyl, an optionally substituted C2-C8 alkynyl, an optionally substituted C2-C8 haloalkynyl, an optionally substituted C2-C8 heteroalkynyl, an optionally substituted heteroaryl, CH(RD)ORA, CH(R^D)NR^AR^B, COR^A, CO₂R^A, and (CH₂)_mR^C; R¹⁰ is selected from among hydrogen, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C₂-C₆ alkynyl, and an optionally substituted C₂-C₆ alkenyl; R¹² and R¹³ each independently is selected from among hydrogen, F, Cl, OR^A, NR^AR^B, SR^A, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C₂-C₆ alkynyl, an optionally substituted C2-C6 alkenyl, and (CH2)mRC;

 R^A and R^B each independently is selected from among hydrogen, an optionally substituted C_1 - C_4 alkyl, an optionally substituted C_1 - C_4 heteroalkyl;

 R^{C} is selected from among an optionally substituted aryl and an optionally substituted heteroaryl that is optionally substituted with a substituent selected from among F, Cl, Br, I, CN, OR^{A} , NO_{2} , $NR^{A}R^{B}$, SR^{A} , SOR^{A} , $SO_{2}R^{A}$, an optionally substituted C_{1} - C_{4} alkyl, an optionally substituted C_{1} - C_{4} heteroalkyl; R^{D} is selected from among hydrogen, an optionally substituted C_{1} - C_{4} alkyl, an optionally substituted C_{1} - C_{4} haloalkyl, and an optionally substituted C_{1} - C_{4} heteroalkyl;

Z is CR^AR^B ;

- 8. (Previously presented) The compound of claim 1, wherein R^3 , R^4 , and R^5 each independently is selected from among hydrogen, F, Cl, and an optionally substituted C_1 - C_4 alkyl.
 - 9. (Previously presented) The compound of claim 1, wherein R³ is hydrogen.
 - 10. (Previously presented) The compound of claim 1, wherein R⁴ is hydrogen.
 - 11. (Previously presented) The compound of claim 1, wherein R⁵ is hydrogen.
- 12. (Previously presented) The compound of claim 1, wherein R^{6a} and R^{7a} each independently is selected from among hydrogen, an optionally substituted C_1 - C_6 alkyl, and an optionally substituted C_1 - C_6 heterohaloalkyl.
 - 13. (Previously presented) The compound of claim 1, wherein R^{6a} is hydrogen.
- 14. (Previously presented) The compound of claim 1, wherein R^{7a} is hydrogen or an optionally substituted C_1 - C_6 alkyl.
- 15. (Previously presented) The compound of claim 1, wherein R^{7a} is hydrogen or methyl.
 - 16. (Previously presented) The compound of claim 1, wherein R^{7a} is hydrogen.
 - 17. (Previously presented) The compound of claim 1, wherein R^{7a} is methyl.
 - 18. (Cancelled).
- 19. (Previously presented) The compound of claim 1, wherein R^{12} is selected from among hydrogen, F, Cl, OR^A , an optionally substituted C_1 - C_6 alkyl, an optionally substituted C_1 - C_6 heterohaloalkyl and $(CH_2)_m R^C$.
 - 20. (Previously presented) The compound of claim 1, wherein R¹⁰ is hydrogen.
- 21. (Previously presented) The compound of claim 1, wherein R^9 is selected from among an optionally substituted C_1 - C_4 alkyl, C_1 - C_6 haloalkyl, $CH(R^D)OR^A$, and $CH(R^D)NR^AR^B$.
- 22. (Currently amended) The compound of claim 1, wherein R^9 is formyl, hydroxy C_1 - C_6 alkyl, hydroxyhalo C_1 - C_6 alkyl, C_1 - C_6 alkylsilyloxy C_1 - C_6 alkyl, C_1 - C_6 alkyl, earboxy, or C_1 - C_6 alkylcarbonyloxy C_1 - C_6 alkyl.
- 23. (Currently amended) The compound of claim 1, wherein R⁹ is formyl, hydroxymethyl, 1-hydroxy-2,2,2-trifluoroethyl, tributylsilyloxymethyl, ethoxycarbonyl, aminomethyl, earboxy, or acetyoxymethyl.

Applicant: ZHI et al. Amendment and Response Serial No.: 10/590,119

Filed : August 18, 2006

24. (Previously presented) The compound of claim 1, wherein R^{12} and R^{13} each independently is selected from among hydrogen, F, Cl, OR^A, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl and (CH₂)_mR^C.

- 25. (Previously presented) The compound of claim 1, wherein R¹³ is hydrogen, F, OH or benzyl.
 - 26. (Cancelled).
 - 27. (Previously presented) The compound of claim 1 of formula IIB:

$$R^{6a}$$
 R^{7a}
 R^{12}
 R^{13}
 R^{12}
 R^{13}
 R^{14}
 R^{10}
 R^{9}
 R^{5}

28. (Currently amended) The compound of claim 1, wherein:

R¹ is NO₂ or CN;

 R^2 is an optionally substituted C_1 - C_4 haloalkyl;

R³, R⁴, and R⁵ each independently is selected from among hydrogen, F, Cl, and an optionally substituted C₁-C₄ alkyl;

R^{6a} and R^{7a} each independently is selected from among hydrogen and an optionally substituted C₁-C₆ alkyl; an optionally substituted C₁-C₆ heterohaloalkyl;

R⁹ is selected from among F, Cl, Br, I, an optionally substituted C₁-C₄ alkyl, an optionally substituted C₁-C₆ heterohaloalkyl, COR^A, CO₂R^A, CH(R^D)OR^A, and $CH(R^{D})NR^{A}R^{B}$;

R¹⁰ is hydrogen; and

R¹² and R¹³ each independently is selected from among hydrogen, F, Cl, OR^A, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ heterohaloalkyl and $(CH_2)_m R^C$.

29. (Currently amended) The compound of claim 1, wherein:

R¹ is NO₂ or CN;

R² is trifluoromethyl;

R³, R⁴, and R⁵ each is hydrogen:

R^{7a} is hydrogen or methyl and R^{6a} is hydrogen;

Applicant: ZHI et al. Amendment and Response Serial No.: 10/590,119

Filed : August 18, 2006

R⁹ is selected from among formyl, hydroxymethyl[[,]] and 1-hydroxy-2,2,2trifluoroethyl, tributylsilyloxymethyl, ethoxycarbonyl, aminomethyl, carboxy, and acetyloxymethyl;

R¹⁰ is hydrogen;

R¹² is hydrogen; and

R¹³ is selected from among hydrogen, F, OH and benzyl.

30. (Currently amended) A compound that is selected from among:

$$R^{7a}$$
 R^{7a}
 R^{7a}

wherein:

R¹ is selected from among SR^A, NO₂, CN, an optionally substituted C₁-C₄ haloalkyl, CONR^AR^B, SOR^A, and SO₂R^A;

R² is selected from F, Cl, Br, I, SR^A, NO₂, CN, a substituted C₁-C₄ alkyl, an optionally substituted C₁-C₄ haloalkyl, COR^A, CO₂R^A, CONR^AR^B, SOR^A, SO₂R^A, and SO₂NR^AR^B, NHCOR^A, and NHCONR^AR^B;

R³ and R⁴ each independently is selected from among hydrogen, F, Cl, OR^A, an optionally substituted C₁-C₄ alkyl, and an optionally substituted C₁-C₄ haloalkyl; provided that if R¹ is NO₂ and R³ is F, then Z is not O;

R⁵ is selected from among hydrogen, F, Cl, an optionally substituted C₁-C₄ alkyl, and an optionally substituted C₁-C₄ haloalkyl;

Applicant: ZHI et al. Serial No.: 10/590,119

: August 18, 2006

R^{7a} is selected from among hydrogen, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C2-C6 alkynyl, and an optionally substituted C2-C6 alkenyl;

R⁹ is selected from an optionally substituted C₁-C₈ alkyl, an optionally substituted C₂- C_8 alkenyl, an optionally substituted C_1 - C_8 haloalkyl, an optionally substituted C_2 - C_8 haloalkenyl, C_1 - C_8 heteroalkyl, an optionally substituted C_2 - C_8 heteroalkenyl, an optionally substituted C2-C8 alkynyl, an optionally substituted C2-C8 haloalkynyl, an optionally substituted C_2 - C_8 heteroalkynyl, an optionally substituted heteroaryl, $CH(R^D)OR^A$, $CH(R^{D})NR^{A}R^{B}$, COR^{A} , $CO_{2}R^{A}$, and $(CH_{2})_{m}R^{C}$;

R¹³ is selected from among hydrogen, F, Cl, OR^A, NR^AR^B, SR^A, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted $C_1\text{-}C_6$ heteroalkyl, an optionally substituted $C_2\text{-}C_6$ alkynyl, an optionally substituted $C_2\text{-}C_6$ alkenyl, and $(CH_2)_m R^C$;

R^A and R^B each independently is selected from among hydrogen, an optionally substituted C_1 - C_4 alkyl[[,]] and an optionally substituted C_1 - C_4 haloalkyl, and an optionally substituted C₁-C₄-heteroalkyl;

R^B is selected from among hydrogen, an optionally substituted C₁-C₄ alkyl, an optionally substituted C₁-C₄ haloalkyl, and an optionally substituted C₁-C₄ heteroalkyl;

R^C is selected from among an optionally substituted aryl and an optionally substituted heteroaryl that is optionally substituted with a substituent selected from among F, Cl, Br, I, CN, OR^A , NO_2 , NR^AR^B , SR^A , SOR^A , SO_2R^A , an optionally substituted C_1 - C_4 alkyl, an optionally substituted C₁-C₄ haloalkyl, and an optionally substituted C₁-C₄ heteroalkyl;

R^D is selected from among hydrogen, an optionally substituted C₁-C₄ alkyl, an optionally substituted C₁-C₄ haloalkyl, and an optionally substituted C₁-C₄ heteroalkyl;

Z is selected from among O, S, CRARB, and NRB; and

m is 1 or 2;

or a pharmaceutically acceptable salt thereof.

- 31. (Original) The compound of claim 30, wherein R^{7a} is an optionally substituted C₁-C₆ heterohaloalkyl.
- 32. (Original) The compound of claim 30, wherein R⁹ is an optionally substituted C₁-C₆ heterohaloalkyl.
- 33. (Original) The compound of claim 30, wherein R¹³ is an optionally substituted C₁-C₆ heterohaloalkyl.

Applicant: ZHI et al. Amendment and Response Serial No.: 10/590,119

Filed : August 18, 2006

34. (Previously presented) The compound of claim 30, wherein the compound is:

$$R^{7a}$$
 R^{7a}
 R^{7a}

35. (Previously presented) The compound of claim 30, wherein the compound is:

$$R^{7a}$$
 R^{7a}
 R^{9}
 R^{9}
 R^{7a}
 R^{13}
 R^{7a}
 R^{9}
 R^{9}
 R^{7a}
 R^{13}
 R^{7a}
 R^{7a}
 R^{13}
 R^{7a}
 R^{13}
 R^{7a}
 R^{13}
 R^{7a}
 R^{13}
 R^{7a}
 R^{13}
 R^{7a}
 R^{13}
 R^{7a}
 R^{13}

36. - 61. (Cancelled).

- 62. (Currently amended) A compound of claim 1, wherein the compound is selected from among:
 - (5R) N (4-nitrophenyl) 5-(dimethyl-tert-butylsilyloxymethyl) 2-pyrrolidone;
- (2*R*)-*N*-(4-nitro-3-trifluoromethylphenyl)-2-(dimethyl-tert-butylsilyloxymethyl)pyrrolidine;
 - (2*R*)-*N*-(4-nitro-3-trifluoromethylphenyl)-2-(hydroxymethyl)pyrrolidine;
 - (2*R*)-*N*-(3-Trifluoromethyl-4-nitrophenyl)-2-formylpyrrolidine;
- (2R)-N-(3-Trifluoromethyl-4-nitrophenyl)-2-(1-(S)-hydroxy-2,2,2trifluoroethyl)pyrrolidine;
- (2R)-N-(3-Trifluoromethyl-4-nitrophenyl)-2-(1-(R)-hydroxy-2,2,2-trifluoroethyl)pyrrolidine;
 - cis-2,5-Dimethyl-1-(4-nitro-3-trifluoromethylphenyl)-pyrrolidine;
 - trans-2,5-dimethyl-1-(4-nitro-3-trifluoromethylphenyl)-pyrrolidine;

Applicant: ZHI et al. Amendment and Response Serial No.: 10/590,119 : August 18, 2006 Filed

4-Benzyl-2-hydroxymethyl-1-(4-nitro-3-trifluoromethylphenyl)-pyrrolidine;

- 2-Fluoro-4-(2-hydroxymethyl-pyrrolidin-1-yl)-benzonitrile;
- 4-Hydroxy-1-(4-nitro-3-trifluoromethylphenyl)-pyrrolidine-2-carboxylic acid ethyl ester;
- 5-Hydroxymethyl-1-(4-nitro-3-trifluoromethylphenyl)-pyrrolidin-3-ol; and
- 2-(Aminomethyl)-1-(4-Nitro-3-trifluoromethylphenyl)-pyrrolidine;
- 4-Hydroxy-1-(4-nitro-3-trifluoromethylphenyl)-pyrrolidine-2-carboxylic acid; and pharmaceutically acceptable salts thereof.
- 63. (Previously presented) The compound of claim 1, wherein the compound is a selective androgen receptor modulator.
- 64. (Previously presented) The selective androgen receptor modulator of claim 63, wherein the compound is an androgen receptor agonist.
- 65. (Previously presented) The selective androgen receptor modulator of claim 63, wherein the compound is an androgen receptor antagonist.
- 66. (Previously presented) The selective androgen receptor modulator of claim 63, wherein the compound is an androgen receptor partial agonist.
- 67. (Previously presented) The selective androgen receptor modulator of claim 63, wherein the compound is a tissue-specific modulator.
- 68. (Previously presented) The compound of claim 1, wherein the compound is a selective androgen binding compound.
- 69. (Withdrawn) A method for modulating an activity of an androgen receptor, comprising contacting an androgen receptor with a compound of claim 1.
 - 70. (Withdrawn) The method of claim 69, wherein the androgen receptor is in a cell.
 - 71. (Cancelled).
- 72. (Withdrawn) A method for treating a patient having a condition susceptible to treatment with an androgen receptor modulator, comprising administering to the patient a pharmaceutical agent comprising a compound of claim 1.
- 73. (Withdrawn) The method of claim 72, wherein the condition is selected from among maintenance of muscle strength and function; reversal or prevention of frailty or agerelated functional decline in the elderly; treatment of catabolic side effects of glucocorticoids; treatment of reduced bone mass, density or growth; treatment of chronic fatigue syndrome; chronic myalgia; treatment of acute fatigue syndrome and muscle loss; accelerating of wound healing; accelerating bone fracture repair; accelerating healing of complicated fractures; in joint replacement; prevention of post-surgical adhesion formation; acceleration of tooth repair

Applicant: ZHI et al. Attorney's Docket No.: 33310.01112.US02 / 1112US

Amendment and Response

Serial No.: 10/590,119 Filed: August 18, 2006

or growth; maintenance of sensory function; treatment of periodontal disease; treatment of wasting secondary to fractures and treatment of wasting in connection with chronic obstructive pulmonary disease, treatment of wasting in connection with chronic liver disease, treatment of wasting in connection with AIDS, cancer cachexia, burn and trauma recovery, chronic catabolic state, eating disorders and chemotherapy; treatment of cardiomyopathy; treatment of thrombocytopenia; treatment of growth retardation in connection with Crohn's disease; treatment of short bowel syndrome; treatment of irritable bowel syndrome; treatment of inflammatory bowel disease; treatment of Crohn's disease and ulcerative colitis; treatment of complications associated with transplantation; treatment of physiological short stature including growth hormone deficient children and short stature associated with chronic illness; treatment of obesity and growth retardation associated with obesity; treatment of anorexia; treatment of hypercortisolism and Cushing's syndrome; Paget's disease; treatment of osteoarthritis; induction of pulsatile growth hormone release; treatment of osteochondrodysplasias; treatment of depression, nervousness, irritability and stress; treatment of reduced mental energy and low self-esteem; improvement of cognitive function; treatment of catabolism in connection with pulmonary dysfunction and ventilator dependency; treatment of cardiac dysfunction; lowering blood pressure; protection against ventricular dysfunction or prevention of reperfusion events; treatment of adults in chronic dialysis; reversal or slowing of the catabolic state of aging; attenuation or reversal of protein catabolic responses following trauma; reducing cachexia and protein loss due to chronic illness; treatment of hyperinsulinemia; treatment of immunosuppressed patients; treatment of wasting in connection with multiple sclerosis or other neurodegenerative disorders; promotion of myelin repair; maintenance of skin thickness; treatment of metabolic homeostasis and renal homeostasis; stimulation of osteoblasts, bone remodeling and cartilage growth; regulation of food intake; treatment of insulin resistance; treatment of insulin resistance in the heart; treatment of hypothermia; treatment of congestive heart failure; treatment of lipodystrophy; treatment of muscular atrophy; treatment of musculoskeletal impairment; improvement of the overall pulmonary function; treatment of sleep disorders; and the treatment of the catabolic state of prolonged critical illness; treatment of hirsutism, acne, seborrhea, androgenic alopecia, anemia, hyperpilosity, benign prostate hypertrophy, adenomas and neoplasias of the prostate and malignant tumor cells containing the androgen receptor; osteosarcoma; hypercalcemia of malignancy; metastatic bone disease; treatment of spermatogenesis, endometriosis and polycystic ovary syndrome; counteracting preeclampsia, eclampsia of pregnancy and preterm

labor; treatment of premenstrual syndrome; treatment of vaginal dryness; age related decreased

Applicant: ZHI et al. Serial No.: 10/590,119

Filed : August 18, 2006

testosterone levels in men, male menopause, hypogonadism, male hormone replacement, male and female sexual dysfunction, male and female contraception, hair loss, Reaven's Syndrome and the enhancement of bone and muscle strength.

74. (Withdrawn) A method according to claim 72, wherein the patient has a condition selected from among acne, male-pattern baldness, wasting diseases, hirsutism, hypogonadism, osteoporoses, infertility, impotence and cancer.

- 75. (Withdrawn) A method for stimulating hematopoiesis in a patient, comprising administering to the patient a pharmaceutical agent comprising a compound of claim 1.
- 76. (Withdrawn) A method of contraception, comprising administering to a patient a pharmaceutical agent comprising a compound of claim 1.
- 77. (Withdrawn) A method of improving athletic performance in an athlete, comprising administering to the athlete a pharmaceutical agent comprising a compound of claim 1.
- 78. (Previously presented) A pharmaceutical composition, comprising a compound of claim 1 and a pharmaceutically acceptable carrier.
 - 79. 81. (Cancelled).
 - 82. (Previously presented) An article of manufacture, comprising: packaging material;

a compound of claim 1 that is effective for modulating the activity of androgen receptor, or for treatment, prevention or amelioration of one or more symptoms of androgen receptor mediated diseases or disorders, or diseases or disorders in which androgen receptor activity is implicated, within the packaging material; and

a label that indicates that the compound or composition, or pharmaceutically acceptable derivative thereof, is used for modulating the activity of androgen receptor or for treatment, prevention or amelioration of one or more symptoms of androgen receptor mediated diseases or disorders, or diseases or disorders in which androgen receptor activity is implicated.

83. (Currently amended) A compound of Formula II:

$$R^{6a}$$
 R^{7a}
 R^{12}
 R^{13}
 R^{2}
 R^{13}
 $R^$

wherein:

Applicant: ZHI et al. Amendment and Response Serial No.: 10/590,119

: August 18, 2006 Filed

R¹ is COR^A, NO₂ or CN;

R² is selected from among hydrogen, F, Cl, Br, I, OR^A, SR^A, NO₂, CN, an optionally substituted C₁-C₄ alkyl, an optionally substituted C₁-C₄ haloalkyl, an optionally substituted C₁-C₄-heteroalkyl, COR^A, CO₂R^A, CONR^AR^B, SOR^A, SO₂R^A, and SO₂NR^AR^B, NHCOR^A, and NHCONR^AR^B;

R³, R⁴, and R⁵ each independently is selected from among hydrogen, F, Cl, OR^A, an optionally substituted C₁-C₄ alkyl, and an optionally substituted C₁-C₄ haloalkyl; provided that if R¹ is NO₂ and R³ is F, then Z is not O;

R^{6a} and R^{7a} each independently is selected from among hydrogen, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C₂-C₆ alkynyl, and an optionally substituted C₂-C₆ alkenyl; or R^{6a} and R^{7a} together form a carbonyl;

R⁹ is selected from among CH(R^D)OR^A, CH(R^D)NR^AR^B[[,]] and COR^A and CO₂R^A;

 R^{10} is selected from among hydrogen, an optionally substituted $C_1\text{-}C_6$ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C₂-C₆ alkynyl, and an optionally substituted C₂-C₆ alkenyl;

R¹² and R¹³ each independently is selected from among hydrogen, F, Cl, OR^A, NR^AR^B, SR^A, an optionally substituted C₁-C₆ alkyl, an optionally substituted C₁-C₆ haloalkyl, an optionally substituted C₁-C₆ heteroalkyl, an optionally substituted C₂-C₆ alkynyl, an optionally substituted C₂-C₆ alkenyl, and (CH₂)_mR^C;

R^A and R^B each independently is selected from among hydrogen, an optionally substituted C_1 - C_4 alkyl[[,]] and an optionally substituted C_1 - C_4 haloalkyl, and an optionally substituted-C₄-C₄-heteroalkyl;

R^B is selected from among hydrogen, an optionally substituted C₁-C₄ alkyl, an optionally substituted C₁-C₄ haloalkyl, and an optionally substituted C₁-C₄ heteroalkyl;

R^C is selected from among an optionally substituted aryl and an optionally substituted heteroaryl that is optionally substituted with a substituent selected from among F, Cl, Br, I, CN, OR^A, NO₂, NR^AR^B, SR^A, SOR^A, SO₂R^A, an optionally substituted C₁-C₄ alkyl, an optionally substituted C₁-C₄ haloalkyl, and an optionally substituted C₁-C₄ heteroalkyl;

R^D is selected from among an optionally substituted C₁-C₄ alkyl, an optionally substituted C₁-C₄ haloalkyl, and an optionally substituted C₁-C₄ heteroalkyl;

Z is selected from among O, S, CR^AR^B, and NR^D;

n is 0, 1, or 2; and

m is 1 or 2;

Applicant: ZHI et al. Serial No.: 10/590,119

Filed : August 18, 2006

Amendment and Response

or a pharmaceutically acceptable salt thereof.

84. (Currently amended) A compound of claim 83, wherein the compound is selected from among:

(2R)-N-(4-nitrophenyl)-2-(1-(S)-hydroxy-2,2,2-trifluoroethyl)pyrrolidine;

(2R)-N-(4-nitrophenyl)-2-(R)-(1-(R)-hydroxy-2,2,2-trifluoroethyl)pyrrolidine;

(2S)-N-(4-nitrophenyl)-2-(1-(S)-hydroxy-2,2,2-trifluoroethyl)pyrrolidine; and

(2S)-N-(4-nitrophenyl)-2-(1-(R)-hydroxy-2,2,2-trifluoroethyl)pyrrolidine;

4 Hydroxy-1 (4-nitrophenyl)-pyrrolidine-2-carboxylic acid ethyl ester; and

— 4-Hydroxy-1-(4-nitrophenyl) pyrrolidine 2-carboxylic acid; and pharmaceutically acceptable salts, esters, and amides thereof.

- 85. (Previously presented) A pharmaceutical composition, comprising a compound of claim 83 and a pharmaceutically acceptable carrier.
- 86. (Previously presented) A pharmaceutical composition, comprising a compound of claim 30 and a pharmaceutically acceptable carrier.